Nova et Vetera

CESALPINO AND THE CIRCULATION

The Circulation of the Blood and Andrea Cesalpino of Arezzo. By Dr. John P. Arcieri. (Pp. 193; illustrated. No price given.) New York: S. F. Vanni, 30, West 12th Street. 1945.

Dr. Arcieri is an Italian who has long practised in America. He is well known as a passionate claimant for the importance of Italian civilization. Few can believe that the unique part of Italy in the revival of learning needs advocacy, but, since nationalism is bedevilling the world, the reviewer must treat such feelings with all tolerance. Dr. Arcieri revives for the fiftieth time the claim for Cesalpino (1519–1603) as discoverer of the circulation. He holds that an underhand designing knave, William Harvey, cunningly and basely filched his due honour.

The facts are these. Scattered in the works of Cesalpino, and notably in his *Peripateticae Quaestiones* (Venice, 1571 and 1593), are passages which, when placed together, can reasonably be regarded as an unclear expression of a belief in the circulation. The lesser circulation had, as is well known, already been enunciated by Servetus and Columbus. It is also now well known that an Arabic writer in the 13th century had guessed at the circulatory movement of the blood as a whole and expressed it clearly. Harvey possibly gained a hint from the work of Cesalpino. Certainly he attended lectures by one of his pupils. Scientific investigators are, in general, eminently receptive of suggestions. Cesalpino, however, did not stress the circulatory idea, or found any doctrine or practice on it, or support it by experimental proof, or give it a prominent place.

Now science is not "bright ideas." If it were every sixth form would contain several scientific geniuses. Nor is it a grand scientific merit to make suggestions. If it were Plato would constantly be studied by students of geology and Lucretius by students of chemistry. Science is the process of demonstration by carefully described experiment and/or observation and the making therefrom of such deductions as lead to further demonstrations. That is where Harvey comes in. That is where Cesalpino goes out.

It is not the historian's task, or indeed within his power, to place scientific figures in order of merit. Cesalpino was a very able man cursed by an obstinate philosophic conservatism and a poor literary style. In these respects he resembled Harvey. His scientific interests were wider than Harvey's. Beside his medical writings he made significant contributions to the nascent sciences of mineralogy and botany. To mineralogy Cesalpino contributed *De metallicis* (Rome, 1596), which is a basic work for modern crystallography. Moreover, he had a pupil, Mercati (1541–93), who predeceased him but whose beautiful *Metallotheca* (Rome, 1717), published long after, carried on the master's tradition. In botany Cesalpino's *De plantis* (1583) contains the first attempt at a "natural" classification of plants, which leads through Joachim Jung, Bauhin, and Ray to Linnaeus, as has been generally acknowledged by botanists. Cesalpino is thus an important if secondary figure in an age of scientific giants: Copernicus, Vesalius, Galileo, Stevinus, Kepler, Descartes, etc. In the reviewer's judgment Harvey too is below the rank of these, since, though a superb experimenter —which Cesalpino was not—his field was relatively narrow, he lacked wide generalizing power, could not free himself from Aristotelian prejudices, and was backward in philosophic outlook.

We would place the total achievement of Cesalpino as high as does Dr. Arcieri. Unfortunately that ardent advocate of everything Italian devotes most of his not unuseful book to unmasking a supposedly widespread Anglo-American plot to belittle Cesalpino. But the difficulty of historians is to give exact meaning to what Cesalpino did say on the circulation. In his last work he bursts into sudden and unexpected clarity with the statement: "The fount of the blood in the heart is distributed into four vessels—namely, the cava, the aorta, the pulmonary vein, and the pulmonary aorta—[and] irrigates the whole body like the four rivers *going forth from* Paradise." This seems a plain contradiction of a circulatory doctrine. In denying that this is so Dr. Arcieri places his hero in the position of a famous Cambridge character:

> "There once was a man on a syndicate
> Who arose his opinions to vindicate;
> We wished to deny
> That he meant to imply
> The ideas which his words seem to indicate."

In truth Cesalpino was not quite sure himself what he meant about the movement of the blood. Such vague uncertainty is common among scientific pioneers. But on this matter Harvey was sure, and that is his special merit.

We must all try to keep our tempers, and the reviewer is confident that, for the blessing of peace, all his fellow conspirators will gladly accept Dr. Arcieri's estimate of Cesalpino on other matters. They would prefer that he should not defame the character of Harvey if they cannot persuade him of his scientific merits. As to his treatment of their own characters they will, he is sure, show themselves much less sensitive.

GEORGE OWEN: PHYSICIAN TO HENRY VIII

What little is known about Owen will be found in Munk's *Roll of the Royal College of Physicians.* He has been credited with having performed Caesarean section on Jane Seymour at the birth of Edward VI. It is known that in company with Sir William Butts (then Dr. Butts) he signed a report on the Queen's health on Oct. 24, 1537. Here is an early example of antenatal care. Henry was desperately anxious to have a legitimate male offspring and may have been genuinely concerned about the Queen's health. Jane Seymour died in childbirth later in the year 1537. Perhaps the operation was performed at the point of death of the mother.

Owen was born in Worcester diocese and was educated at Oxford. Doubtless he was of Welsh ancestry. The King appointed him an executor of his will and left him £100. He died on Oct. 18, 1558, and was buried in St. Stephen, Wallbrook. From the State Papers of the period we learn that he received considerable grants of monastic property, much of which had belonged to Abingdon. He had also an annuity from St. Augustyne's, Bristow (Bristol), in 1542. In the same year he had a licence to alienate the meadow called Bewley Mede, on the N.W. side of the stone causey leading from Oseney Bridge to the new bridge over Bulstake water, to Robert Morwent, Clerk. This is one of several licences obtained at this time, and he appears to have had a part interest in the lordship of Cumnor Place in company with John Bridges, M.D.

Owen's will (*P.C.C. Chaynan* 11), dated 5. Philip and Mary (1558), was proved May 26, 1559. He left his "Soule to Jesus Christ, Body in the earth. To my wif all such stuf and goodes as in her house at Marten and here in London; my plate that I had before I was maryed onely excepted. Sonne William, Goddes blessing and myne. Sonne Edward £10 yerely at hands of Sonne Richard and to be ruled by him till 24. Daughter Lettyce £100, to have meate and drynke with my sonne till she marry. I forgive Henry Jusse debts and rents due. To Thomas Crowe reversion of Galburys hole at Whatley, paying £4. To Ryse reversion of Harparishold at Woolvercot. Henry Colley and John Lambe a hole yeres wages. William Jonys 20/-. Lewes, my bayly, half a yeres wage. Mister Collyns, a white mare. To Woolvercote church a young cowe to be put to some use that I may always be prayed for." The will was witnessed by John Collins, priest, and Henry Jusse, of Yarnton. The executors, Sonne Richard Owen, Mr. Secretary Boxall, Mr. Wendy, and Sir Leonard Chamberlayne, were empowered to sell land at Chorlton, Watly, Fincote, and apparently his wife's manors of Budcombe and Congresbury. Of these Wheatly, Wolvercot, and Yarnton are all near Oxford. Chorlton I imagine is Charlton-upon-Otmere, also in Oxfordshire. Congresbury is in Somerset.

What lies behind the queer legacy to Sonne William: was he already provided for, or had he been an unruly, troublesome son? I much fear the latter. And the legacy of the young cow to Wolvercot Church is most unusual. Had it been with the idea of keeping the churchyard cropped, a few sheep would have been better. Did he contemplate a supply of free milk for the children? One would like to know, but I cannot offer an explanation. We have all heard of parish bulls, and those who are fond of *Tristram Shandy* will remember that Mr. Walter Shandy, "whether by ancient custom of the manor, or as impropriator of the great tythes, was obliged to keep a bull for the service of the parish"; but this was a manorial matter, not an ecclesiastical, and had Owen wished to leave a memento to the parson he would surely have been more definite. I suspect that the John Collins, priest, who witnessed the will got the white mare for his legacy.

R. R. J.